

DETAILED ACTION

Response to Amendment

In view of Applicant's Amendment received 30 May 2008, amendments to the claims have been entered. Claims 1-29 are pending.

Claims 15-25 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 30 August 2006.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 and 26-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 5 and 6, it is unclear what constitutes "sufficiently rigid to prevent substantial expansion". There is no disclosure or written basis in the specification discussing what constitutes "sufficient" rigidity, let alone there being any discussion of how much rigidity there is/must be to prevent "substantial expansion". Further, "substantial expansion" means a large amount of expansion. However, as with the recitation "sufficiently rigid", there is no disclosure or discussion of what amount of expansion constitutes "substantial" expansion. Finally, "sufficient" and "substantial" appear to be relative terms that are undefined. Accordingly, the metes and bounds of the claims cannot be properly determined.

Claim Rejections - 35 USC § 102

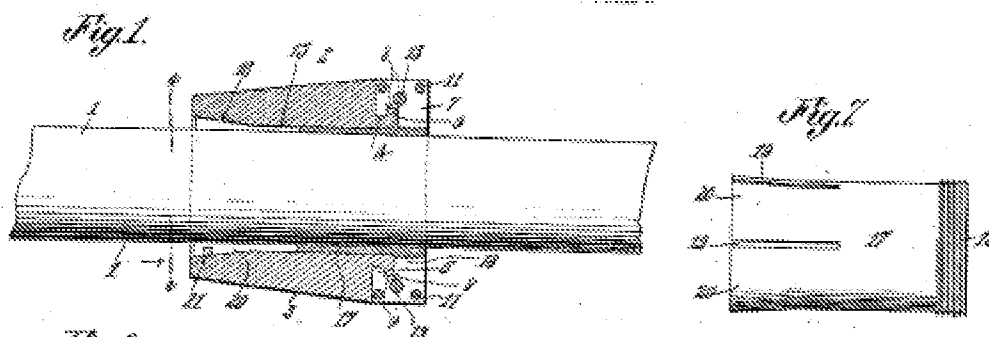
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8-13, and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 1,024,344 Langevin.

With respect to claim 1, Langevin discloses a mounting device (Figs. 1, 7) for anchoring a machine element (not shown) on the cylindrical shaft (1), including an outer sleeve (3) having an internal bore having a tapered portion and a frustoconical external surface, wherein the outer sleeve is substantially rigid the outer sleeve rigidity prevents substantial expansion or contraction when the device is tightened or loosened; an inner sleeve (17) including an internal bore with a threaded portion (18); an external tapered portion configured to cooperate with the tapered portion of the outer sleeve (17); an axially elongated slot (19) extending along the inner sleeve (18) to allow slight expansion and contraction of the inner sleeve (17), a locking ring (constituted by sections 6 and 7) threadedly engaging the threaded portion (18) of the inner sleeve (17); and wherein turning the locking ring in a first direction operates to displace the inner sleeve in a first direction relative to the outer sleeve so that the external tapered portion of the inner sleeve rides up the internal tapered surface of the outer sleeve, causing the internal bore of the inner sleeve to contract, thereby tightening the device.



With respect to claim 2, Langevin discloses (Figs. 1, 7) when turning the locking ring (constituted by sections 6 and 7) in a second direction opposite the first direction operates to displace the inner sleeve (17) in a second direction relative to the outer sleeve (3) so that the external tapered portion (18) of the inner sleeve (17) rides down the internal tapered portion of the outer sleeve (3) allowing the internal bore of the inner sleeve (17) to expand, thereby loosening the device.

With respect to claim 6, Langevin discloses (Figs. 7) the inner sleeve (17) having a plurality of axial slots (19) extending through the inner sleeve (17) along the tapered portion.

With respect to claim 8, Langevin discloses a mounting device (Fig. 1) having a connector (constituted by a flange 9) connecting the outer sleeve (3) and the locking ring (constituted by sections 6 and 7) to impede relative axial displacement between the outer sleeve (3) and the locking ring (constituted by sections 6 and 7) while allowing relative circumferential displacement between the locking ring (constituted by sections 6 and 7) and the outer sleeve (3).

With respect to claims 9 and 10, Langevin discloses a mounting device (Figs. 1, 7) including an outer sleeve (3) having a generally frustoconical external engagement surface and internal bore having a diameter; a radially deformable inner sleeve (17) having an internal bore and configured to cooperate with the bore of the outer sleeve (3); the inner sleeve (17) having a threaded portion (18), the outer sleeve (3) having a first connector (constituted by a flange 9); a locking ring (constituted by sections 6 and 7) having a threaded portion configured to threadably engage the threaded portion (18) of the inner sleeve (17), and a second connector (constituted by an annular groove 8) configured to cooperate with the first connector (9) to connect the locking ring (constituted by sections 6 and 7) with outer sleeve (17), and wherein the outer sleeve walls are substantially solid along the length of the engagement surface; and wherein the outer sleeve configured to impede expansion of the engagement surface when the device is tightened by turning the locking ring in a first direction which inherently causes displacement of the inner sleeve relative to the outer sleeve.

With respect to claims 11-13, Langevin discloses (Fig. 1) that the outer sleeve bore having a portion having walls tapered and the external surface of the inner sleeve (17) including a tapered portion configured to cooperate with the tapered bore of the outer sleeve (3), wherein

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the engagement surface of the outer sleeve (3) is substantially rigid, and wherein the inner sleeve (17) having an axial slot (19).

With respect to claim 26, Langevin discloses a mounting device (Fig. 1) including an internal bore onto a shaft (1) comprising an outer sleeve (3) having an outer diameter greater than the internal bore of the element, and an internal bore having a tapered surface; a radially deformable inner sleeve (17) comprising an internal bore and configured to cooperate with the bore of the outer sleeve (3) to affect contraction of the inner sleeve bore; the inner sleeve (17) having a threaded portion (18), the outer sleeve (3) having a first connector (constituted by a flange 9); a locking ring (constituted by sections 6 and 7) having a threaded portion configured to threadably engage the threaded portion (18) of inner sleeve (17), a second connector (constituted by an annular groove 8) configured to cooperate with the first connector (9) to connect the locking ring (constituted by sections 6 and 7) with outer sleeve (17); and wherein the outer sleeve (3) is substantially rigid to impede expansion of the outer sleeve (3) when the device is tightened by turning the locking ring in a first direction which inherently causes displacement of the inner sleeve relative to the outer sleeve.

With respect to claims 27 and 28, Langevin discloses (Fig. 1) that the outer sleeve bore having a portion having walls tapered and the external surface of the inner sleeve (17) including a tapered portion configured to cooperate with the tapered bore of the outer sleeve (3), wherein the engagement surface of the outer sleeve (3) is substantially rigid, and wherein the inner sleeve (17) having an axial slot (19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 7, 14 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langevin.

With respect to claims 3, 14 and 29, Langevin discloses the claimed invention except at least one of the inner sleeve and the outer sleeve is formed of plastic, the engagement surface is formed of a plastic material. Plastic and its properties are well-known per se. It would have been obvious to one of ordinary skill in the art at the time of invention was made to form the inner and outer sleeves of Langevin from plastic for such reasons as to provide a rust proof material which protect the mounting device from rust and corrosion due to a moisture.

With respect to claims 4 and 5, Langevin discloses the claimed invention except for the frustoconical engagement surface of the outer sleeve is formed of a plastic having a coefficient of friction of at least 1.0 and less than 1.0. Plastic and its properties are well-known per se. Therefore, it would have been an obvious matter of engineering design choice to form the frustoconical engagement surface of the outer sleeve from plastic with any desired coefficient of friction (i.e., at least 1.0 or less than 1.0) so as to achieve the desired degree of frictional locking.

With respect to claim 7, Langevin fail to disclose that the forward end of the outer sleeve having a reduced diameter opening having a diameter that is smaller than the outer diameter of the forward end of the inner sleeve (120). It is well known per se that the outer sleeves come in varitey of shapes and sizes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the opening of outer sleeve with a diameter that is smaller than the outer diameter of the forward end of the inner sleeve in order to eliminate the gap between the outer sleeve and the shaft and prevent entering the dirt.

Response to Arguments

Applicant's arguments with respect to claims 1-14 and 26-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior cited references US Patent No. 4,615,640 Hosokawa and US Patent No. 2,470,179 McCloskey.; are cited to show a securing shaft to a hollow member.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action, e.g. claim 1, lines 5 and 6, the frustoconical external surface is sufficiently rigid to prevent substantial expansion or contraction of the frustoconical external surface”, was not claimed in original claimed invention. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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